

ADDITIONS
TO THE
SECOND EDITION
OF
Mr. Wotton's Reflections
UPON
Ancient and Modern Learning.

[Addit. Pag. 148, &c.]

C H A P. XII.

Of the Learning of the Ancient Indians and Chineses.

WE are now arrived in our Passage Eastward as far as the *Indies*, where the first Springs of that Learning which afterwards flow'd always Westward, arose. Thither *Pythagoras* is said to have gone, and to have fetch'd from thence his celebrated Doctrine of the *Transmigration of Souls*, which he taught, and is now believed by the Modern *Bramines* as it was the Opinion of the *Brachmans* of old.

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226

[216]

We have very little if any Account of these *Indian* Philosophers before *Alexander the Great*, who extended his Conquests as far as the River *Indus*. His Historians acquaint us with a Set of Philosophers in that Countrey, who practised great Austerities themselves, and taught others that Wisdom lay in living upon a little, in Abstaining from almost all sorts of Natural Pleasures, and Promoting the Prosperity and Welfare of the rest of Mankind. The Description that *Strabo* gives us of them, out of *Megasthenes*, *Onesicritus* and *Aristobulus*, which is very well Abridged by *Sir W. T.* is the Fullest and most Authentic that we have. And that the Body of it may be true, is probable from the Accounts of their Successors the *Bramines*, which are given us by *Monsieur Bernier*, and *Abraham Roger*, who lived many Years among them, and made it their Business to collect their Opinions with all the Exactness they could.

The superstitious Care which these People take to follow the Customs, and propagate the Opinions of their Ancestors, be they never so absurd and senseless, plainly shews that they would have preserved their Learning with equal Care, had there been any of it to preserve. They keep a Collection of the wise Sayings of one *Barthouherri*,



throuberri, which Monsieur *Roger* has given us a Taste of ; but such miserable Stuff, for the generality, that one cannot read them without smiling at the Simplicity of those that can admire them. They wou'd not shew Monsieur *Roger* their Book of the Law, which they pretend to be sent from God ; but by the Account which his *Bramine* Doctor gave of it, it is only an absurd History of the fabulous Successions of their Deities, and as absurd a Collection of superstitious Ceremonies, by which they were to be worshipped. Their Doctrine of the *Transmigration of Souls*, which *Pythagoras* first taught in the West, is a precarious idle Notion, which these besotted *Indians* do so blindly believe, that they are afraid of killing a Flea or a Louse, for fear of disturbing the Soul of one of their Ancestors. Though at the same time they scruple not to force multitudes of poor silly Women, and sometimes too, full sore against their Wills, to burn themselves alive with their deceased Husband's Bodies, under a pretence of their being serviceable to them in another World, though they are far from having any assurance that their Husbands will there stand in need of them. Can we believe that there is a generous Spirit residing in a People, who have now for MM or MMM Years placed the highest de-

grees of Sanctity and Prudence in half-starving themselves, and depriving themselves of the lawful Conveniences of Life? Yet these were the chiefest Employments of the Ancient *Brachmans*, as they are still of the Modern *Bramines*.

So that there is reason to fear that the Stories of the extraordinary Wisdom of the Ancient *Brachmans* are in a great measure fabulous, because in the idle and bigotted part of the Narrative they do so particularly agree with the Modern *Bramines*; and also, because if one consults what the Ancients have recorded of the *Brachmans* in *Alexander's* time, which is all gathered

(a) *Palladius de Gentibus Indiae, & Bragmanibus*
Edit. Bissci Lond. 1665.

(b) Let but any Man compare *Strabo* and *Palladius* together, and he will see the difference, tho' 'tis plain they relate to the same Time.

into a Body by (a) Sir *Edward Byshe*, he will find that the Accounts which come the nearest to the Fountain, have less in them of the Romance, (b) and that their Historians have expatiated and flourish'd more, as they were at the greater

distance. For, upon comparing what all those Authors there quoted have said, I am enclinable to believe, that all we know of the Ancient *Brachmans*, is due to the Accounts which *Alexander's* Companions have given us.

But let us enter into Particulars. Sir *W. T.* tells us, out of *Strabo*; (c) "That their
"Opi-

“ Opinions in Natural Philosophy, were,
 “ that the *World* was *Round* ; that it had
 “ a Beginning, and wou’d have an End,
 “ but reckoned both by immense Periods
 “ of Time ; that the Author of it was a
 “ Spirit, or a Mind that pervaded the
 “ whole Universe, and was diffused through
 “ all the Parts of it ; and, that they held
 “ the Transmigration of Souls, and some
 “ used Discourses of Infernal Mansions, in
 “ many things like those of (d) *Plato*.” (d) *Essay*,
 Whether *Megasthenes*, from whom *Strabo* pag. 17.
 takes all this Account, has not made it a
 little more beautiful than he ought, I very
 much question, since Monsieur *Bernier*
 says, (e) That the *Bramines* believe, “ That (e) *Voyages*,
 “ the *Earth* is *Flat* and *Triangular*, with Tom. III.
 “ several Stories, all differing in Beauty, pag. 168.
 “ Perfection and Inhabitants, each of which Edit. Eng.
 “ is encompassed, they say, by its Sea ;
 “ that one of these Seas is of Milk, ano-
 “ ther of Sugar, the third of Butter, the
 “ fourth of Wine, and so forth : so that
 “ after one Earth there comes a Sea, and (f) An I-
 “ after a Sea an Earth, and so on to seven, maginary
 “ beginning from *Someire* (f), which is Mountain,
 “ in the midst of these Stories : That the place in
 “ first Story, which is at the foot of *So-* the midst
 “ *meire*, hath *Deuta’s* (g) for its Inhabi- Earth.
 “ tants, which are very perfect ; that the (g) The
 “ second contains likewise *Deuta’s*, but less of the *Bra-*
 “ per- mines.

“ perfect ; and so of the rest, still lessening the Perfection to the seventh, which, they say, is ours, that is, of Men far less perfect than all the *Deuta's* : And, lastly, That this whole Mass is sustained upon the Heads of divers Elephants, which when they stir, cause an Earthquake.” Upon all this, and abundance more of the like nature in *Astronomy, Anatomy, Medicine, and Physic's*, which seems to be the true Oriental Doctrine, consonant to those noble Discoveries which are in *(h) Monsieur Roger's History of the Lives and Manners of the Bramines*, Monsieur Bernier makes this Remark ; *(i)* “ All these strange Impertinencies, which I have had the patience to relate, have often made me think, that if *they* be those famous Sciences of the Ancient *Brachmans* of the *Indies*, very many have been deceived in the great Opinion they entertained of them. For my part, I can hardly believe it, but that I find the Religion of the *Indians* to be from immemorial Times ; that 'tis written in the *Hanscrit* Language, which cannot but be very ancient, since its beginning is unknown, and 'tis a *dead Language*, not understood but by the Learned ; that *all* their Books are only written in that Tongue : all which
 “ are

(h) Histoire de la Vie & des Mœurs des Bramines.

(i) P. 169.

“are as many Marks of a very great Antiquity.” This, by the way, confutes the Opinion of those (k) who make the *Indian* Learning to be all Traditionary; for not only their Religious, but their Profane Knowledge too, is all written in this *Hanscrit* Dialect. (k) Sir W. T. his Essay, p. 17.

Yet one Notion of these *Bramines* I cannot but take notice of, because it is a very Philosophical one, and has been with probability started and defended by some of the most curious Anatomists of the present Age, who built their Hypothesis upon the latest Discoveries which have been made in that admirable Art: I shall set it down in Monsieur *Bernier*’s words; (l) “The (l) P. 175,
“Seeds of Plants and Animals are not
“formed a-new, but were contrived in the
“first Production of the World, and dispensed abroad every where, and mixed
“in all things; and that they are not
“only potentially but actually the very
“and entire Plants, and Animals, tho’
“so small, that their Parts cannot be
“distinguisht, but when put into a
“convenient Womb, and there nourisht,
“they extend themselves and encrease:
“So that the Seeds of an Apple and Pear-
“Tree, are a little, entire, and perfect
“Apple and Pear-Tree, having all its
“Essential Parts; and so the Seeds of an
[* 4] “Horse,

“ Horse, an Elephant, a Man, &c. are a
 “ little Horse, a little Elephant, a little
 “ Man, in which there wants nothing but
 “ the Soul and Nourishment to make
 “ them appear what they are.”

(m) Pag.
 166.

This Opinion seems rather to have been maintained by a *Leeuwenhoek*, or a *Malpighius*, than by an *Indian*, who, as Monsieur *Bernier* assures us, (m) *understands nothing at all of Anatomy, and can speak nothing upon that Subject but what is impertinent.* Had it been the Result of Thought and Meditation, founded upon proper Premises, which must be the Effects of many and repeated Observations, one *might* justly have looked for, and *would* infallibly have found many other Notions of equal Subtilty among these *Bramines*; which tho' erroneous, (and so, perhaps, may this be,) yet could not have been made by any but Skilful Men. Such Discoveries likewise would have obliged us to have entertain'd a very honourable Notion of the Learning of the Ancient *Brachmans*; because, tho' they *might* have been Modern, in comparison of those Ancient Times, yet they *might not* also, for ought we knew, and consequently might have been challenged to those Ancient Philosophers by their Modern Champions. But when, amidst a vast variety of wild and fantastical Opinions,

nions, a Man meets with one or two which stand alone by themselves, without any thing that appears to have raised or confirmed them, he ought not presently to conclude, that the Philosophers who maintain them are Wise and Learned Men, tho' once, perhaps, or twice, *Quod nequit Ingenium, Casus fecit.*

[Addit. Pag. 290, &c.]

CHAP. XXII.

Of Ancient and Modern Agriculture and Gardening.

THE *Ancients* put so great a Value upon the Country-man's Arts, and we have so many Treatises still extant concerning them, written by their greatest Philosophers, their ablest Philologers, and their best Poets; that to say nothing of them, may be thought an inexcusable Omission. *Husbandry* and *Gardening* are Subjects upon which *Theophrastus* (*Aristotle's* Darling Disciple,) *Varro* (who is said to be the Learnedest of all the *Romans*,) and *Pliny* (perhaps no-way his inferior) have written large Discourses yet remaining. *Varro* and *Pliny* quote Numbers of Authors,

thors, some of them no less than Crowned Heads, since lost. *Hesiod*, whom some of the Ancients make older than *Homer*, and *Virgil* the Prince of *Roman* Poets, have left us Precepts of these Arts. *Columella* says, they are related to Philosophy it self, which those Heathen Sages priz'd so highly : And the later *Roman* Writers are still upbraiding the Luxury of their own Times, which wholly took off their Minds from these most useful Employments, and sending their effeminate Country-men back to their renowned Ancestors who went from the Plough to the Camp, and having there commanded victorious Armies, returned back again to the Plough, to redeem the Time they had lost.

There is no doubt but great Things were done in these Arts by the Ancients : Had we no Books extant to acquaint us with their Knowledge, yet the thing shews it self : Countries cannot be peopled by civilized Nations, nor great Cities fill'd, nor Trade carried on by polite and industrious Inhabitants, unless the Arts of Husbandry flourish. Mankind, without them, would be Wild, like the *Negroes*, and *American* Salvages, or *Arabs*. But yet one Nation may be much more Knowing in these Things than another, and one Age consequently, though all may have Skill

Skill enough to answer the Necessities of Civil Life.

In making my Comparison, I shall comprehend all that the Ancients understood by their *Res Rustica*, as it takes in the *Forester's*, the *Husbandman's*, and the *Gardener's* Business : *Cato*, *Varro*, and *Columella* include the *Grazier's* also, thereby compleating the whole Body of *Farming* ; but since his Work cannot well be made a Science of, I shall omit it.

By a *Forester* here, I understand one that knows how to Plant, Propagate and Encrease all sorts of Timber Trees ; what Soils are proper for every sort ; how they may best be defended from Dangers in their Growth ; to what Uses they are most applicable, when they have arrived to their utmost Perfection ; and how they may be best applied : Such a Man, in short, as Mr. *Evelyn* instructs in his *Sylva*, where he gives a full System of the *Woodman's* Skill ; what he ought to know, and what to practise. A great part of his Work, and indeed the Nicest part of it, the Ancients were Strangers to, as having less occasion for it. The World was then, comparatively speaking, in its Infancy ; there was no want of Wood for Fuel, Building, or Ships ; and this Plenty made Men less curious in Contriving

triving Methods of Preserving what they had in so great abundance. *England*, till within a few Ages, was every where overrun with Wood : The *Hercynian* Forest anciently took up what is now the most flourishing part of *Germany* : And *France*, which is at present so wonderfully Populous, that little Cultivable Ground remains Untill'd, was in *Cæsar's* time over-spread with Woods and Forests. As Men encrease, Tillage becomes more and more requisite ; the consumption of Wood will be proportionably greater ; and its want, and the necessary Uses of Timber, which grow upon Men as they become more numerous, will of consequence put them upon ways to preserve and encrease it. Commerce with distant Parts, will shew Men rare and useful Trees, to which their own Soil was before a stranger ; and Luxury will soon teach them to transplant them.

No wonder therefore if Modern Writers excell the Ancients, upon a Subject which they had less occasion for. The *Romans*, indeed, were curious in Planting Trees for Shade or Fruit ; but their Industry in that particular comes under another Head, as rather belonging to the *Gardener's* Work. It may therefore, perhaps be esteemed a small Character of *Mr. Evelyn's Discourse of Forest Trees*, to say,

say, that it Out-does all that *Theophrastus* and *Pliny* have left us on that Subject : For it not only does that, and a great deal more, but contains more useful Precepts, Hints and Discoveries upon that now so necessary a part of our *Res Rustica*, than the World had till then known from all the Observations of former Ages. To name others after him, would be a derogation to his Performance.

Agriculture properly so called, has been always necessary since *Noah's* time, when the Flood, that destroy'd the World of the Ungodly, wrought such a change upon the Face of the Earth, as made it necessary for all Mankind in the sweat of their brows to eat their bread. And the early Populousness of the Eastern Nations, (though I would not bring *Semiramis* and *Zoroaster's* Armies to prove it) shews how much it was followed. For though those Countries should be allowed to be, as they really are, marvellously Fruitful ; yet even *Ægypt*, and the Plains of *Babylonia*, must be Tilled, to yield a Crop to satisfy the Hunger of their Inhabitants. Westward, as the World was later Peopled, so Tillage was proportionably later ; and the *Athenians* tell of one *Triptolemus*, who learn'd the Art of Sowing Corn of the

(n) Vid.
Marshami
Chronicon:
 pag. 249.
 Edit. Lond.

the *Ægyptians*, above a Thousand Years after *Noah's Flood* (c). After that, Necessity taught them many Rules ; and it is evident from *Theophrastus*, and the *Roman Writers of Geoponic's*, that their Knowledge in this kind was very great. They were thoroughly versed in the Art of Dressing their Grounds, and the Seasons when it was proper to do every part of a Husbandman's Work : what Compost was fit to meliorate their overwrought or barren Lands ; what Soil was best for this Grain, and what for that. Their Vines and Olives, which were their Farmer's care, were managed with much Skill and Curiosity ; and *Pliny* reckons up a great many sorts of both of them, which the Luxury of that Age had taught them to cultivate. In a word ; They were Industrious and Skillful Husbandmen ; and perhaps, 'tis not possible to tell, at this distance, whether our Farmers manage their Grounds more judiciously than they did theirs : since any Improvements particular to one Climate and Soil, do not prove that Age in which they are made, more Knowing than another, wherein such Improvements could take no place : though at the same time, a Countrey naturally barren, which has a weak Sun in an unkindly Climate, requires

requires more Skill, as well as more Industry, to make it fertile. And therefore it may be question'd, whether, considering the Natural Felicity of the Soils of *Sicily*, *Africa* and *Greece*, and much more of *Ægypt*, *Judæa* and *Babylonia*, whose Fertility was anciently, with Reason, so much extolled, the Improvements in *England*, *Scotland* and *Holland* may not justly come into competition with any ancient Performances; which how great soever in themselves, were yet less upon this account, that the Husbandmen in those Regions had not such Difficulties to struggle with.

But though the Ancients, probably, understood the Art of Sowing Wheat, and Barley, and Legumes, and Flax, and how to manage their Vines and Olives, as well as any Age has done since; yet other things of unispeakable use they were wholly strangers to. The Art of Making Cyder, at least of Chusing the best Apples, and Managing their Orchards and Plantations accordingly, they knew little or nothing of. And here again I must remember to take notice, (which, upon every opportunity, I gladly do,) that Mr. Evelyn's *Pomona* has taught the present Age many things concerning the way of Ordering Apple-Trees, and Making
Cyder,

Cyder, to which the World, till then, were wholly Strangers, and for which he ought here to be mention'd with Honour. The *Sugar-Cane* was not anciently unknown, since it grows naturally in *Arabia* and *Indostan*; but so little was the Old World acquainted with the Nature of its delicious Juice, that some of their ablest Men doubted whether it were a Dew like Manna, or the Juice of the Plant it self. All the Arts and Methods therefore of Preparing Sugar, which have made it so very useful to Humane Life, are owing to Modern *Portuguezes* and *English*. *Malt-Drinks* were used in *Gaul* and *Spain* anciently; as also in *Ægypt*, where, probably, they were first invented: but whether they were so accurately made as ours, no Man can tell, unless he knew certainly whether and with what they fermented them. May I not farther instance in *Coffee* and *Tobacco*? The *Romans* drove a greater Trade in *Arabia*, and were better acquainted with its Commodities, than this part of the World has been at any time since, which no Man that has ever read the Thirteenth Book of *Pliny's Natural History* can possibly doubt of; yet there is no one Syllable of any thing like *Coffee* in his whole Work, nor indeed in any other Ancient

Ancient Author before the *Arabs*. It is very probable that it grows wild in *Arabia*, since it is known to grow nowhere else; and that the Prohibition of Wine by the *Mahometan* Law, made the *Arabs* find out its Virtues, (whereas before it was a neglected Shrub) to supply the place of the other Liquor. But still its Cultivation is, as to the present Question, Modern; and since the *Arabs* do now bestow great Care and Pains in Managing it, it comes not improperly in among the Augmentations of *Modern Agriculture*. And that *Tobacco* ought here to be mention'd, is question'd by none who know what a Delight and Refreshment it is to so many Nations, so many several ways. The Accounts of *Virginia* and *Brasil* will inform us what pains our *Europæan* Planters are at, to make that Herb palatable to all sorts of Persons. So that without taking notice of any more Particulars, we may be assured, that the *Modern Husbandry* is a larger, if not a more exact thing than the *Ancient*; and even in those things wherein the Ancients did most excell, in the Management of their Vines and Olives, the comparative Excellency of the later Ages will perhaps be allowed by all those who are acquainted with the Curiosity of the pre-

sent, in Managing of their Fruit-Trees ; which shall be treated of in its proper place.

I deferred to speak of *Gardening* till the last ; because *Luxury* always comes after *Necessity* ; though, generally, when it is once introduced, it still goes on encreasing, till it is come to the utmost pitch to which it can be carried. In the present Subject, we shall find a gradual Improvement so very visible, that I hope to put it past controversy.

The Babylonian *Horti Pensiles*, or Gardens on the tops of Buildings, ought, in most Men's Opinion, first to be mention'd in point of Antiquity. These, *Josephus* assures us, were only large Walks of Trees planted on the tops of Mounts of Masons Work, erected in the midst of the City by *Nebuchadnezzar*, to please his Wife. If they are no older, *Alcinous's* Garden, described by *Homer* (o), was long before them. There one sees the Simplicity of that Heroical Age very plainly. The Poet thought he did a magnificent thing, when he made it Four Acres in circumference : He tells us, it was stored with Pear-Trees and Apple-Trees, Pomegranates and Figs, Vines and Olives, which furnished him with constant successions of Fruit ; and had

(o) *Odyss.*
lib. viii.

had two Fountains, one cut into Streams, to water it within; the other flowing from thence, to supply the Necessities of the Inhabitants of the Town. And this is all he says of it: Poets and Romancers describe every thing for their Hero's uses, as splendidly as they can, what they have seen, read, or heard of, is always brought in, as 'tis expected it should. Accordingly the Garden described by *Eustathius* (p), in the later times of the *Græcian* Empire, when Luxury was improved into an Art, which it was far from being in old *Homer's* time, is much finer, though far short of the Gardens and *Villa's* of the Princes and Great Men of the present Age. *Eustathius's* Garden has open and arched Walks of Laurel, Cypress and Myrtle, with Arbors of Vines for the Conveniencies of the Guests, to gather the Grapes as they lay at their Meals by the Fountain-side; with a *Jet d'eau* in the middle of it, spouting Water out of an Eagle's Bill; by which a She-Goat was milked, with the Liquor dropping out of the Nipples into a Pail on purpose: round the Fountain are Swallows and Peacocks, Doves and Cocks, all either Cast or Carved, out of whose Bills the Water flowing, gave a Sound to the several Birds. This indeed is very

(p) *Amor-
um Ymi-
nia & Y-
mines, l. i.*

pleasant and poetical, and shews, that *Eustathius* had seen or heard of something of this nature, by which he guided his Fancy.

(q) Lib. x.
tot. 6
lib. xi.
cap. 3.
(r) Lib.
xix.

What the *Roman* Gardens were, we are sufficiently taught by their Writers of *Countrey Affairs* : (q) *Columella's* and (r) *Pliny's* Precepts and Descriptions are fit for nothing else but a Kitchen-Garden : They give Directions for Ordering Cucumbers, Melons, Artichokes, Coleworts, Turneps, Radishes, Parsnips, Skirrets, Garlick, Leeks, Onions, Asparagus, and a numerous train of Pot-Herbs, with a little Garden-Physic. They both assign this as the reason why *Virgil* would say nothing of Gardening, in his *Georgic's* ; it being a Subject so very poor and jejune, that it would not bear the Ornaments which that Divine Poet gave to all his Works : So they seem to understand his *Spatia iniqua* which he complains of, upon which account he left off where he did.

For if we fantasie that the Gardens of *Lucullus*, *Pompey*, *Cicero*, *Mecænas*, *Seneca*, and of all those Great *Romans* which are so highly extolled by the Ancients, were what we ordinarily call Gardens, we are very much mistaken : Their Gardens were spacious Plats of Ground, filled and fur-

surrounded with stately Walks of Platan's, and other shady Trees, built round with Xyfti, Portico's, finely paved with curiously coloured and far-fetch'd Marble, laid in artificial Figures, noble Ranges of Pillars, adorned within with Fish-Ponds, Aviaries, Fountains and Statues. Such still are the Villa's of the *Italian* Princes at *Frascati*, *Tivoli*, and their other delicious Seats in *Latium* and *Campania*, so celebrated of old, for being the Gardens of the *Europæan* World. Such, in some measure, are the famous Gardens about *Ispahan*, where Shade and Coolness give them their greatest Pleasure, in a Region where the Soil naturally furnishes its Inhabitants with excellent Fruit, and fragrant Flowers ; so that they are at little pains to cultivate that which they can have without, and which would not afford half that Delight in their Gardens of Pleasure, that they find in lying, in the cool of the Day, under a shady *Plane*, by a Fountain-side. This made the Ancients, who all lived in warm Climates, admire the *Plane* so exceedingly, that frantic Stories are told of *Xerxes's* doting upon one in the *Lesser Asia*, when he was bringing down his mighty Armies against *Greece* (s). The Walks of *Aca-* (s) *Ælian*.
demus, and the Gardens of *Epicurus*, were *Var. Hist.* 2. 14.
[** 3] of

of this sort, Cool and Delicious ; but which can give us no Idea of the Artificial Beauties of Modern Gardens. For the Question is not, which is in it self pleasanter ; or, whether if we lived in *Greece* or *Persia*, we should not rather chuse to imitate the Fashion of those Countries : but, which shews the greatest Skill of him that makes it.

The Gardens of this Age are of several sorts, *for the Kitchen, for Flowers, for Greens, and Shady Walks, for Fruit-Trees, and for the Apothecary.*

To the First of these, the Industry of the Ancients (as we have seen already) was in a manner wholly confined. That they knew how to manage those Kitchen Stores which their Gardens yielded, is unquestionable ; but their Variety was not near so great, since neither was the New World known, nor the Old so well examined as it has been since. Besides, they knew little of the Art of Raising Summer Plants, in the severest Frosts, and so making all Seasons of the Year unite in one, at Great Men's Tables ; the bringing which to the present Perfection, is due to the Industry and Sagacity of the Age we live in ; which how much it has enlarged this part of Gardening from what it was anciently, every Man by him-

himself will easily imagine. The *Romans*, indeed, had a way of Preserving Melons in Winter, by Sowing them in a large Box fill'd with rich Mold and Dung, which they housed in Winter, and exposed in Sun-shiny Days under their *Specularia*, that seem to have been of the nature of our Glasses: by which Contrivance, *Tiberius* the Emperor had Melons all the Year round. That shews what Necessity might have forced them to, had they been put to it.

As for *Flower Gardens*, the Ancients minded them not. They require an open Sun, and a free Air, which in hot Countries would have been Nuisances, rather than Delights. Plants remarkable for their Beauty or their Smell, had a place indeed in their Plantations; but we find no mention of any great Variety of Species, or Art in Ranging or Managing those they had. There is nothing said in any *Greek* or *Roman* Authors of large Gravel-Walks, surrounding spacious Grass-Plats, edged with beautiful Borders, fill'd with all that choice of Auricula's, Tulipa's, Carnations, Tuberoses, Jonquilles, Lily's, Hyacinths, Narcissus's, and that almost infinite diversity of Beautiful and Odoriferous Flowers that now adorn our *Gardens*. They knew not the Art of Diver-

fifying the Colours, Enlarging the Flowers, and giving them all those sickly or luxuriant Beauties which are so commonly to be met with in our Gardens. Some Notion they had of Managing *Dwarf-Trees*, and Clipping other Trees that would bear it into what Form the Gardeners please; but they speak so little of it, that we have no reason to think they understood much of that beautiful Furniture which *Dwarfs* and *Ever-greens* afford us.

The Usefulness of *Fruit-Trees* made them be anciently more regarded. The Vines and Olives of the Ancient *Greeks* and *Romans* we have mention'd already. They had several sorts of Apples, Pears, Quinces, Peaches, Pomegranates, Plums, Figs and Nuts: As for Oranges and Limons, and the delicious Fruits of the *East* and *West-Indies*, they were wholly Strangers to them. And they had not near the Variety of those they knew, with which *Monfieur de la Quintinie*, were they now alive, cou'd furnish them. Though they had many Precepts concerning Pruning, Setting, Graffing and Inoculating, knew their Usefulness, and cou'd perform all those Operations with Success; yet, comparatively speaking, their Manner was coarse; and had their Climates been as unkindly, their Success wou'd have been

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but indifferent. They could manage Earth and Air and Water pretty tolerably ; but how to bring the Sun under Rules (if I may use so bold an Expression) they knew not ; which yet, by their Wall-Plantations, our Gardeners do every day. That is an Invention the Ancients were entirely unacquainted with ; thereby, in Cold Countries, we can command the Warmth of *Italy* and *Spain*, and have Fruits of a Bigness, and Colour, and Taste, which ev'n at Home they can scarce reach.

It will not be hard now, with due Allowances, to make a just Comparison between *Ancient and Modern Horticulture*. Monsieur de la Quintinie will give us a full and just Idea of what the Skill of this Age can reach to : Mr. Evelyn's *Kalendarium Hortense* ought to be joined with it, to shew the Difference in a more Northern Clime. What Variety our Florists can pretend to, will appear from *Parkinson's Paradise*, *Ferrarius's Flora*, or *Swertius's Florilegium*. In those Books one may see what Art can do, to beautifie and enlarge Flowers beyond what Nature ordinarily produces. Other Men can only follow Nature ; the Gardener alone leads it, and hastens or slackens its pace according as suits best with his Designs or Inclinations.

I need

I need say nothing of the *Physic-Garden*; since what has been said already in the foregoing Chapter enables every Man to judge there aright. So much for the *Knowledge of Things not endued with Sensible Life*.

[*Addit. pag. 344. l. 15.*]

SURGERY comes next to be considered; which though at present it be look'd upon as inferior to **PHYSIC**, yet it was much the ancientest, and is still the certainest part of *Medicine*. For here the Eye directs the *Surgeon* how he shall proceed; and if he knows but the Virtue of his Medicines, and how to apply them, he can, generally speaking, tell whether his Patient be curable or not. Anciently this was only a Branch of the *Physician's* Work; and the Old *Physicians* in the Heroical Times, *Æsculapius*, *Chiron*, *Machaon*, and the rest, were little more than *Surgeons* that could apply a Plaister, and cure a Green Wound. Nay, after Learning had emboldened Men to reason upon the Causes of Diseases whose Original was not visible to the naked Eye, and to try whether Inward Remedies would not cure them; Surgery was constantly treated of by *Physicians*,

ficians, as a part of their Profession. *Celsus* alone will convince every Man of the truth of this Proposition.

But how they treated of it, I durst not adventure to assert; tho' the Public will thank me for leaving it untouch'd, since that eminently Learned Surgeon, Mr. *Charles Bernard*, who is so great an Honour to his Profession, has done me the favour to communicate this following Paper: which I shall subjoin in his own words:

‘ If we enquire into the Improvements
 ‘ which have been made by the Moderns
 ‘ in *Surgery*, we shall be forced to confess,
 ‘ that we have so little reason to value our
 ‘ selves beyond the Ancients, or to be temp-
 ‘ ted to condemn them, as the fashion is
 ‘ among those who know little, and have
 ‘ read nothing, that we cannot give strong-
 ‘ er or more convincing Proofs of our
 ‘ own Ignorance, as well as our Pride. I
 ‘ do not pretend that the Moderns have
 ‘ not at all contributed towards the Im-
 ‘ provement of *Surgery*; that were both
 ‘ absurd and injurious, and would argue as
 ‘ much folly as that which I am reproach-
 ‘ ing: but that which I am contesting for,
 ‘ is, That it consists rather in Refining and
 ‘ Dressing up the Inventions of the An-
 ‘ cients, and setting them in a better Light,
 ‘ than

' than in Adding many important ones of
 ' our own. Whether it be, that the Art
 ' of Healing External Hurts, being princi-
 ' pally the Subject of our Senses, was ear-
 ' lier studied, and therefore capable of be-
 ' ing sooner brought to a greater degree of
 ' Perfection, than the other branch of
 ' Medicine ; or, that the majority of the
 ' meer Professors having been for some
 ' Ages illiterate and empirical, it hath not
 ' been advanc'd and cultivated so as it might
 ' have been, had they been better qualify'd
 ' than they generally were, and do yet, for
 ' the greatest part, continue to be : For a
 ' Testimony of which, that exceeding Pau-
 ' city of good Writers which occur in *Sur-*
 ' *gery*, when compar'd with those in most
 ' of the other learned Arts and Sciences,
 ' is, in my opinion, sufficient ; and yet,
 ' were they fewer, 'twould, in the judg-
 ' ment of these *Scioli*, be no great detri-
 ' ment to the Art. For the Folly of which
 ' Assertion, the best Excuse that can be
 ' made, seems to be, that because some
 ' Methods of proceeding both in *Physic* and
 ' *Surgery*, which are incommunicable, to
 ' which every Man must be directed by his
 ' own Judgment and Natural Sagacity, not
 ' being to be found in those Authors whom
 ' these opinionated Practitioners have had
 ' the luck to consult, they are led imme-
 ' diately

‘ diately to despise all Reading, as useless
 ‘ and uninstruative; especially that of the
 ‘ Ancients, who do not generally, I con-
 ‘ fess, write to Novitiates and Fools, or to
 ‘ those who will be always such.

‘ But whoever hath been conversant in
 ‘ their Writings, and hath the Opportunity
 ‘ and Capacity of comparing and judging
 ‘ from his own Experience, will readily con-
 ‘ fess, that one thing which does not a lit-
 ‘ tle recommend the Reading of them be-
 ‘ yond most of the Moderns, is, That they
 ‘ are more accurate in describing the *Pathog-*
 ‘ *nomonics*, and more just and nice in distin-
 ‘ guishing the Species of Tumors and Ul-
 ‘ cers, than our more refined Moderns are.

‘ If this Age hath par’d away any rude
 ‘ and superfluous Methods of Practice, as
 ‘ it must be confess’d they have, it cannot
 ‘ be demonstrated that they were all de-
 ‘ riv’d from the Ancients, but were in a great
 ‘ measure introduc’d by ignorant and bar-
 ‘ barous Professors of a much later date.

‘ There is no question, but that the prin-
 ‘ cipal Improvements which have these lat-
 ‘ ter Ages been made in *Surgery*, are owing
 ‘ chiefly to the Discoveries which have been
 ‘ made in *Anatomy*, by which we are better
 ‘ enabled to solve many of those *Phænomena*
 ‘ which were before inexplicable, or ex-
 ‘ plained amiss; the most important part,
 ‘ in

‘ in the mean while (I mean the Art of
 ‘ Healing, to which all the others ought
 ‘ to be subservient) remaining very little
 ‘ better than the Ancients left it.

‘ As an uncontestable Proof of what I say,
 ‘ I appeal to all those Bodies of *Surgery*
 ‘ which have been hitherto publish’d by
 ‘ the most Learned and Celebrated of the
 ‘ Moderns, being all manifestly Transcripts
 ‘ from one another, and the best of them
 ‘ from the Ancients. But this may indeed
 ‘ be said in defence of the Moderns in this
 ‘ particular, That even Transcribing is not
 ‘ their Invention, tho’ it be their Practice;
 ‘ for *Ætius* and *Ægineta* have borrow’d not
 ‘ a little of what they have, from *Galen*; and
 ‘ *Marcellus Empiricus* more grossly from *Scri-*
 ‘ *bonius Largus*, without so much as remem-
 ‘ bring his Name among the rest of those
 ‘ Authors to whom he was less beholden.

‘ Among all the Systematical Writers, I
 ‘ think there are very few who refuse the
 ‘ Preference to *Hieron. Fabricius ab Aqua-*
 ‘ *pendente*, as a Person of unquestion’d Lear-
 ‘ ning and Judgment; and yet is not he
 ‘ asham’d to let his Readers know, that
 ‘ *Celsus* among the Latins (who, he tells
 ‘ us, is *Mirabilis in Omnibus*, and advises, in
 ‘ *Horace’s* words, *Nocturnâ versare manu,*
 ‘ *versare diurnâ,*) *Paulus Ægineta* among
 ‘ the Greeks, and *Albucasis* among the
 ‘ *Ara-*

‘ *Arabians* (whom I am unwilling to place
 ‘ among the Moderns, being in the num-
 ‘ ber of those whom our Modern Judges re-
 ‘ ject, either because they never read him,
 ‘ or because he had the misfortune to live
 ‘ *DC* Years since) are the Triumvirate to
 ‘ whom he principally stands indebted, for
 ‘ the Assistance he received from them, in
 ‘ composing his excellent Book.

‘ But how many Operations are there
 ‘ now in use, which were unknown to the
 ‘ Ancients? I fear, that upon a due En-
 ‘ quiry, there wou’d be more useful ones
 ‘ found to be omitted or discontinued, than
 ‘ to have been invented by us. But to de-
 ‘ scend a little to Particulars, that we may,
 ‘ without Prejudice or Partiality, be enabled
 ‘ to determine whether the Ancients are
 ‘ indeed so contemptible, and their Writings
 ‘ so useless, as some would represent them.

‘ *Cutting for the Stone* (to begin with that)
 ‘ was unquestionably theirs, and the man-
 ‘ ner accurately described by *Celsus* and
 ‘ others; and yet that no Person or Age
 ‘ may be defrauded of the Glory they de-
 ‘ serve, where we can do them right, we
 ‘ must confess, that that way of perform-
 ‘ ing it, which in most cases is preferable,
 ‘ and in some only practicable, which by
 ‘ Authors is styl’d *Magnus Apparatus*, the
 ‘ High Operation, or *Cutting upon the Staff*,
 ‘ was

' was invented by one *Joannes de Romanis*
 ' of *Cremona*, who flourish'd at *Rome*, about
 ' the Year 1520. The Manner of the
 ' Operation, and the Instruments necessary,
 ' were first described and publish'd by his
 ' Scholar *Marianus Sanctus Barolitanus*, at
 ' *Venice*, in 1535. The Use of the *Modiolus*,
 ' in Opening the Skull, was likewise theirs;
 ' our Country-man *Woodall* only mending
 ' the Instrument, by making that Taper,
 ' which was before Cylindrical, and for
 ' that reason not altogether so secure: The
 ' *Alæ*, or Wings, being the Invention of that
 ' Great Man *Aquapendens*, to whom we
 ' stand obliged for many other useful In-
 ' struments. The *Paracentesis*, in all its
 ' kinds, is theirs: *Barbette*, indeed, inven-
 ' ted an Instrument which is sometimes
 ' more commodiously made use of than the
 ' Ancient Methods are. *Laryngotomy*, or
 ' the Opening of the Wind-Pipe, in a Quinsey,
 ' was practis'd by them; an Operation
 ' secure and necessary; however, at this
 ' day so disus'd, that it is almost become
 ' obsolete, either through the Timidity of
 ' the Patient, or Relations, or the Back-
 ' wardness or Ignorance of the Physician or
 ' Surgeon; and tho' *Aretæus*, *P. Ægi-*
 ' *neta*, and *Cælius Aurelianus*, seem, from
 ' the Authority of *Antyllus*, to discourse
 ' doubtfully of it; yet the greatest part
 ' of

‘ of the Ancients, both *Greeks* and *Ara-*
 ‘ *bians*, advise it ; and *Galen* in particular,
 ‘ from Reason and Experience, as well as
 ‘ from the Authority of *Asclepiades*, justly
 ‘ recommends it as the last Refuge in a
 ‘ *Quinsey*. *Cutting for the Hernia Intesti-*
 ‘ *nalis*, with the true Distinctions and
 ‘ Cures of all the other Species, are accu-
 ‘ rately described by them. They taught
 ‘ us the Cure of the *Pterigion* and *Cataract* ;
 ‘ they described and distinguish’d all the
 ‘ Diseases of the Eyes, (which were not
 ‘ then, as now to the reproach of the
 ‘ Age they are, almost solely in the Hands
 ‘ of Old Women and Mountebanks) as
 ‘ justly as any of our Modern Oculists,
 ‘ who, indeed, do little more than tran-
 ‘ scribe from them. *Opening an Artery*,
 ‘ and the *Jugular-Vein*, (pretended to be
 ‘ revived here in *England*) was no more
 ‘ first attempted by the Moderns, than
 ‘ making *Ligature* in an *Aneurism* ; which
 ‘ though an Operation of no mighty dif-
 ‘ ficulty, was certainly not understood,
 ‘ very lately, by *Fred. Ruysch*, a conside-
 ‘ rable *Dutch Anatomist*, and Professor of
 ‘ that and Surgery at *Amsteldam*, [as may
 ‘ be seen in his *Observationes Anatomico-*
 ‘ *Chirurgicæ*, Obs. 2. printed in *Quarto*, at
 ‘ *Amstel.* 1691.] The *Extirpation* of the
 ‘ *Tonsils*, or *Uvula*, is not our Invention ;
 ‘ though

[* *]

though, indeed, the removal of the former by *Potential Cauteries*, which we sometimes use, when the Patient will not admit Excision or Fire, seems neither to have been practis'd nor known to the Ancients. The manner of treating the *Fistula Lachrymalis* (a nice and difficult Cure, very often) which we continue at this day, is no other than what was taught by them; only the Use of the *Cannula* for the *Cautery* seems owing to *Fabr. ab Aquapendente*. As for the *Actual Cautery*, no inconsiderable, however terrible a branch of *Surgery* it may seem, though *Costæus*, *Fienus* and *Severinus* have written so amply concerning it; yet from one single *Aphorism* 'tis demonstrable, that *Hippocrates* knew its true Use as well as any that have since succeeded him; not to mention how frequent it is in the Writings of all the rest of the Ancients, and us'd in many cases (I don't doubt but with admirable success) wherein it is wholly neglected, or not understood by us. The Cure of the *Varices*, by Incision, scarce talk'd of in our days, seems to have been familiarly practis'd among the Ancients, as is manifest from *Celsus*, and *Paulus Aegineta*; though so painful an Operation, that, as *Tully* [2 *Tuscul.*] and *Plutarch* tell us, *Marius* was the first

who

' who in one Leg underwent it, standing,
 ' and without being bound, though he
 ' cou'd not be prevail'd upon to purchase
 ' with so much Torture a Cure in the
 ' other : And though *Pliny* tells us, that
 ' he was *unus Hominum*, the single Instance ;
 ' yet *Tully* assures us, that by his Example,
 ' there were others that sustain'd with e-
 ' qual Resolution and Fortitude. And who-
 ' ever is conversant with those obstinate
 ' Varicous Ulcers which we frequently
 ' meet with, will confess, that for the ef-
 ' fecting of a Cure, 'tis absolutely neces-
 ' sary, however painful and superfluous an
 ' Operation some may esteem it. The
 ' Ancients mention the *Vari* and *Valgi*,
 ' and prescribe us a Method of Cure ; but
 ' the manner of their Reduction by the
 ' Instruments now in use they knew not,
 ' which were the Invention of *Fabricius*
 ' *ab Aquapendente* : as was also that for
 ' *Extraction of the Polypus* ; which never-
 ' theless the Ancients cur'd as frequently,
 ' tho' not so commodiously as our selves.
 ' But the *Polypus of the Ear* (a Disease
 ' indeed which occurs not so often as the
 ' preceding) seems so little known to the
 ' Moderns, that the very Mention of any
 ' such Disease is rarely to be met with in
 ' any of their Writings, yet the Cure of it
 ' is not omitted by the Ancients. They

[* * 2]

' were

' were perfectly acquainted and furnish'd
 ' with Convenient Instruments for the Re-
 ' duction of all the Species of *Fractures* and
 ' *Luxations*, and the Methods of treating
 ' them afterwards ; together with all the
 ' kinds of *Sutures* at this day in use among
 ' us, and some too that are now lost, at
 ' least so uncertain, that some very learned
 ' Men have thought they employed not
 ' their time amiss, in endeavouring to de-
 ' termine what they were, and to recover
 ' their Use. And though some have con-
 ' tended, that *Issues* were unknown to them,
 ' the contrary is evident from *Celsus* and
 ' *Cælius Aurelianus* ; though we must ac-
 ' knowledge, that the placing and conti-
 ' nuing them as now we do, appears not
 ' to have been in use among them. Nor is
 ' the *Seton* so extremely Modern, but that
 ' *Lanfrancus*, who liv'd CCCC Years since,
 ' directs its Use, and describes the manner
 ' of Making, (yet mentions it not as an
 ' Invention of his time,) though indeed, till
 ' *Hildanus*'s days, it seems to have been al-
 ' ways made with the *Actual Cautey*.

' There is no doubt but the *Υστερο-*
 ' *μολοιζα*, or *Cutting the Infant out of the*
 ' *Mother*, to preserve both, commonly
 ' call'd *Partus Cæsareus*, (not often, if at
 ' all practis'd among us, tho' reviv'd by
 ' some of our Neighbours with a success
 ' which

‘ which ought to provoke the Emulation
 ‘ of our Professors here) is owing purely
 ‘ to the Felicity of the Moderns of the
 ‘ last Century. For, not to enter into the
 ‘ Controversie, whether *Pliny*, *Nonius* or
 ‘ *Isidore* were in the right, in asserting,
 ‘ that the First of the *Cæsars* was denomi-
 ‘ nated from his manner of Birth ; or
 ‘ *Probus* and *Festus*, in affirming, that
 ‘ they were the *Cæsones* ; whereas the
 ‘ *Cæsars* were only so called, from their
 ‘ Hair : Most certain it is, that neither
 ‘ Side pretend the Operation to have been
 ‘ done *Matre Superstite* : Nor is there any
 ‘ Evidence, that Cutting the *Fætus* out
 ‘ of the Womb, and Preserving the Mo-
 ‘ ther, was ever propos’d or thought of by
 ‘ the Ancients, whether *Greek*, *Latine* or
 ‘ *Arabian* ; both the Story, and the Reason
 ‘ of the Name, being to be found only in
 ‘ the Historians and Grammarians. Who
 ‘ it was that first propos’d or practis’d it,
 ‘ I confess, I am not able to determine :
 ‘ For *Fr. Rossetus*, who first wrote solemnly
 ‘ and expressly, or indeed at all, concern-
 ‘ ing it, produces several Examples of other
 ‘ Men’s Experience and Success, before
 ‘ ever he attempted it himself.
 ‘ As for those Operations which the *Greeks*
 ‘ call’d *Κολοβώματα*, or *Curtorum Chirurgia*,
 ‘ they amounted to no more than Cutting
 ‘ the

' *the Hair-Lip*, or the like ; for that they
 ' knew and practis'd ; and therefore it be-
 ' comes us to do right to the Age whose
 ' it was, for the Discovery of that which
 ' *Gaspar Taliacotius* properly so calls, and
 ' which himself brought to Perfection,
 ' and (whatever Scruples some who have
 ' not examin'd the History, may entertain
 ' concerning either the Truth or Possibility
 ' of the Fact) practis'd with wonderful
 ' Dexterity and Success, as may be prov'd
 ' from Authorities not to be contested.
 ' So that it is a most surprising thing to
 ' consider, that few or none should have
 ' since attempted to imitate so worthy
 ' and excellent a Pattern, especially in an
 ' Age wherein so many deplorable and
 ' scandalous Objects do every day seem
 ' either to beg or command our Assistance.
 ' But I do not assert him to have been the
 ' first Inventor, because it is what I find
 ' mention'd, tho' imperfectly, by *Alex.*
 ' *Benedictus*, before *Taliacotius* was born ;
 ' and afterwards, by *Vesalius*, in his *Chi-*
 ' *rurgia Magna*, if at least that mean Piece
 ' be his, as we have it publish'd by *Bor-*
 ' *garutius*, which *Fabr. Hildanus* justly
 ' questions. There is likewise an Epistle
 ' quoted by *Steph. Gourmelenus*, in his
 ' *Ars Chiurgica*, written from one *Calen-*
 ' *tius*, to his Friend *Orpianus* (who, it seems,
 ' had

' had the misfortune to want a Nose,)
 ' giving him an Account, that there was
 ' one *Brauca* a *Sicilian*, *qui didicit nares*
 ' *inferere*, which *Calentius* himself had seen
 ' perform'd, and therefore invites him to
 ' come, with this Encouragement, That
 ' he might be sure to return with a Nose
 ' of what size he pleas'd. Who this *Or-*
 ' *pianus* was, is not material to enquire ;
 ' nor can I, I confess, say much of this
 ' *Brauca*, (or *Branca*, as *Taliacotius* calls
 ' him, who seems to know no more of
 ' Him or his History, than what he tran-
 ' scrib'd from *Gourmelenus* ; and *Gourme-*
 ' *lenus* himself, no more than is express'd
 ' in this Epistle of *Calentius*, which af-
 ' fords but little light into the History ;)
 ' though it is very probable that he was
 ' the same Person whom *Ambr. Parey* men-
 ' tions to have practis'd this way of
 ' Inoculating Noses some Years before his
 ' time, in *Italy* ; and gives an Instance of
 ' a Cadet of the Family à *S. Thoano*, who
 ' being weary and asham'd of a Silver
 ' Nose, applying himself to this *Italian*,
 ' return'd with one of Flesh, to the Won-
 ' der and Satisfaction of all that knew
 ' him. As for this *Elisus Calentius*, from
 ' whom we have the first mention, that I
 ' can find, of any such Operation, he was
 ' Contemporary and Familiar with *San-*

' *nazarius*, and *Jov. Pontanus*, who men-
 ' tions him ; as does also *Lilius Gyraldus*,
 ' in his *History of the Modern Poets*, and
 ' tells us, agreeably enough, that he was
 ' Poor, Amorous, and a Poet ; that he was
 ' born at *Amphracta*, in *Apulia*, but liv'd
 ' generally at *Naples* : His Works were
 ' printed about the Year 1503 ; and after-
 ' wards, his *Epistles*, among other select
 ' ones, were publish'd by *Gilb. Cognatus*,
 ' and printed by *Oporinus*, in 1558. But
 ' I must not omit, among the rest, (what
 ' indeed is so notorious, that no Man, I
 ' suppose, will deny it,) That all the sorts
 ' of *Amputations*, as Limbs, and Breasts, &c.
 ' were as familiarly practis'd among the
 ' Ancients, as any can pretend they are
 ' among us, if we had only the Authority
 ' of a Poet for it, *Immedicabile vulnus ense*
 ' *rescindendum est*.

' The Art of *Bandage*, or *Rowling*,
 ' no mean or unnecessary, though neg-
 ' lected piece of *Surgery*, and upon which
 ' the *French* do so much value themselves,
 ' they knew so well, and had in such per-
 ' fection, that we have not pretended to
 ' add much to that excellent and useful
 ' Treatise which *Galen* hath expressly writ-
 ' ten upon that Subject.

' And tho' the Variety of *Instruments*
 ' now in use, may seem, in some measure,
 ' to

‘ to be justly challeng’d by the Moderns,
‘ every Man adding as his own Fancy sug-
‘ gested, and the Necessity required ; yet
‘ by what are transmitted to us by the An-
‘ cients, ’tis notorious, that they were nei-
‘ ther ignorant nor destitute of those which
‘ were most necessary ; and that they had
‘ Variety of others too, may, by what we
‘ see describ’d by *Oribasius* and others, and
‘ are at this day made use of, more easily
‘ be imagin’d than prov’d, but seems high-
‘ ly probable.

‘ As for *Topical Medicines*, most cer-
‘ tain it is that we are oblig’d to them, for
‘ instructing us in the Nature and Proper-
‘ ties of almost all those of which we do
‘ at this day form our Applications ; some
‘ few excepted, the Productions of Mo-
‘ dern Chymistry, in this or the preceding
‘ Century.

‘ And as for general Methods of Cure,
‘ many of them have been so excellently
‘ well handled by the Ancients, (to in-
‘ stance only in Wounds of the Head)
‘ that several of the Moderns who have
‘ written most judiciously upon them,
‘ have been of Opinion, that they could
‘ not serve and oblige Posterity better,
‘ than by Commenting upon that admi-
‘ rable Book of *Hippocrates* upon the same
‘ Subject.

‘ That

' That which without Injury to the
 ' Ancients, or Vanity in our Selves, may
 ' be justly said, is, That the publishing
 ' Observations after that Method which
 ' some of the Moderns have done, is that
 ' wherein we must be allowed infinitely
 ' to have exceeded them; and is vastly
 ' of more Advantage to the Reader, than
 ' the perusal of tedious Systems are ca-
 ' pable of being, two or three of which
 ' generally comprehending whatever is to
 ' be found in all the rest: But particular
 ' Cases, when judiciously and faithfully re-
 ' ported, (of which, too few, I fear, even
 ' of the Moderns are guilty,) *Et prodesse*
 ' *solent & delectare*, are diverting and
 ' instructive at once, the Reader more ef-
 ' fectually adding other Men's Experience
 ' to his own.

' But to insist upon every Particular,
 ' and to pretend to demonstrate what hath
 ' been Invented, Discontinued or Lost in
 ' every Age, if it be to be done, requires
 ' a Person of greater Leisure, and infi-
 ' nitely more capable than my self. What
 ' I have said, is sufficient to shew, that
 ' it becomes us to speak of the Ancients
 ' with Respect and Civility at least, if it
 ' were only for this; That it was our
 ' Instruction, and the Benefit of Mankind
 ' in general, which induc'd them to take
 ' that

' that Care, and to be at so much Expence
 ' of Time and Labour to communicate
 ' their Knowledge to the World : Not that
 ' we are implicitly to be determin'd by
 ' their Authority, or to suppose that they
 ' have not left room for succeeding Ages
 ' to Invent, and to Improve all those Parts
 ' of *Surgery* wherein they appear either
 ' to have been mistaken or deficient. For
 ' my own part, I must confess, I do en-
 ' tirely concur with *Thomas Bartholine*,
 ' [*Epist. Med. Cent. 3.*] who very well
 ' understood the Advantages which the
 ' Moderns had, and was himself as soli-
 ' citous for the Improvement of Know-
 ' ledge, as inquisitive into Nature, and
 ' as happy in his Discoveries, as any of
 ' those who imagine it a part of their
 ' Wit and Breeding to ridicule and con-
 ' temn the Ancients ; *Pessimè studiis suis*
 ' *consulunt* (says he) *qui ita recentiorum*
 ' *scriptis se immergunt, ut veteres vel neg-*
 ' *ligant vel contemnant, quam plerarumque*
 ' *rerum lux ex illis pendeat* : And in ano-
 ' ther place ; *Ita semper recentiorum sen-*
 ' *tentiis & opinionibus calculum adjeci, ut*
 ' *sua antiquitati reverentia servaretur, cui*
 ' *artis nostræ fundamenta debemus.*

[Addit.

[*Addit.* pag. xxii, &c.]

THE
P O S T S C R I P T
T O T H E
P R E F A C E.

SINCE the *Second Edition* of my Book was printed off, we have had an Account in the *Journal des Sçavans*, that Monsieur *Perrault* has publish'd a THIRD PART of his *Parallel between the Ancients and the Moderns*; in which he undertakes to prove, that the Skill of the Moderns in *Geography, Philosophy, Medicine, Mathematics, Navigation, &c.* is preferable to that of the Ancients. The Book is not yet, that I know of, in *England*, and possibly may not be procurable in some time. I thought it necessary, however, to take notice, that I have had a bare Intimation of such a Book, and no more; that so if in any Material Things we should happen to Agree, (as writing upon the same Argument, 'tis very probable

bable we may,) I might not hereafter be thought a *Plagiary*. There was no danger hitherto; since as far as he had gone before, I either openly dissented from him, or directly abridg'd his Words.

Pag. 220. I have, upon his own Authority given *Columbus* the Credit of Discovering that little Bone in the Inner Cavity of the Ear, which, from its figure, is commonly call'd the *Stirrup*: And indeed, he being the first that ever mention'd it in Print, and pretending that it was his own Invention, seems to have the fairest Plea to the Honour of it. But *Philippus Ingrassias*, who wrote sometime before *Columbus*, certainly knew it: For, in his Commentary upon *Galen de Ossibus*, he expressly mentions it; and for that Reason, *Fallopius*, who could not want Opportunity of being truly inform'd, and was a right honest Man, and a judicious Anatomist, and one to whom many Discoveries are owing, ascribes it to him in such Terms as put the Controversie beyond dispute. *Tertium* (says *Fallopius*, speaking of the little Bones in the Inner Cavity of the Ear) *si nolumus debitâ laude quenquam defraudare, invenit & promulgavit primus Johannes Philippus ab Ingrassia Siculus Philosophus ac Medicus Doctissimus*
dum

dum Neapolitano in Gymnasio publicè Anatomem doceret : And a little after ; *Deus tamen gloriosus scit Ingrassiæ fuisse inventum ; atque cum Stapedis aut Saffæ nostrorum Patrum effigiem gestet, merito Stapedis nomine ab eodem fuisse donatum.* Had *Ingrassias's* Book been printed in his Lifetime, there had never been room for a Dispute ; though his Right was so well known, that *Bartholomæus Eustachius*, who wrote soon after *Columbus*, and put in his Claim to the Glory of the Discovery, mentions *Ingrassias's* Pretences, which *Columbus* does not.

Some, perhaps, will think this Enquiry into the Author of this Discovery, to be a needless Affectation of Exactness. But 'tis so much the Duty of all Writers, not to mis-lead their Readers in the smallest particular, that they are obliged to rectify their own Mistakes where-ever they find them, and not to be afraid of being accused of Negligence ; since Truth, and not Glory, ought to be the ultimate End of all our Labours and Enquiries.

I am obliged also to take notice, that I have lately got a sight of *Servetus's Christianismi Restitutio*, out of which that famous passage concerning the Circulation
of

of the Blood, which I set down at length, pag. 230. was copied long ago by that worthy Member of the *Royal Society*, Mr. *Abraham Hill*, from whom Mr. *Bernard* had it. My Lord Bishop of *Norwich*, whose incomparable Library contains every thing that is rare and excellent, did me the Honour to show it me. His Manuscript Copy is a Transcript of that Printed one which is preserved in the Landtgrave of *Hesse's* Library at *Cassels*; the very Book that was perused by *Sandius*, who gives an Account of it in his *Bibliotheca Antitrinitariorum*. The Book it self was printed (at *Basil*, says *Sandius*) in 1553. and is a Collection of all *Servetus's Theological Tracts*, though considerably enlarged: some of which, and particularly his *Discourses concerning the Trinity*, had been publish'd Twenty Years before. This I mention; because, if what *Servetus* says of the Passage of the Blood through the Lungs, be in the former Edition, the Discovery has so much the greater Antiquity. The Passages now in question, are in the *Fifth Book of the Trinity*, where he treats of the *Holy Ghost*: (a) He says There he takes pains to prove, (a) that he introduces this

Disputation, ut inde intelligas ipsi Spiritus Sancti Substantia esse essentialiter adjunctam creati Spiritus Christi Substantiam.

the

the Substance of the Created Spirit of Jesus Christ is Essentially joined to the Substance of the Holy Ghost. To explain this, he talks much of God's Breathing the Soul into Man, which, by his manner of Explication, it is plain, he believed to be Material, the way he proceeds, is this:

'He supposes Three Spirits in Man's Body,

'Natural, Vital, and Animal;

'which (says he) are (b) real-

'ly not Three, but Two di-

'stinct Spirits. The Vital is

'that which is communicated

'by Anastomoses from the Ar-

'teries to the Veins, in which

'it is called Natural. The

'Blood therefore is First, whose

'Seat is in the Liver and Veins:

'The Vital Spirit is Second,

'whose Seat is in the Heart

'and Arteries: The Animal

'Spirit is Third, which is like a Ray of

'Light, and has its Seat in the Brain and

'Nerves.' So that he makes the begin-

ning of the whole Operation to be in the

Liver; which, according to him, is the

original Work-house of the Blood, which

he calls the Soul or Life, as it is call'd in

the Old Testament.

(b) Qui vere non sunt tres, sed duo Spiritus distincti. Vitalis est spiritus qui per Anastomoses ab Arteriis communicatur Venis, in quibus dicitur Naturalis. Primus ergo est Sanguis, cujus sedes est in hepate & corporis venis: Secundus est Spiritus Vitalis, cujus sedes est in corde, & corporis arteriis: Tertius est Spiritus Animalis, quasi lucis radius, cujus sedes est in cerebro & corporis nervis.

Now

Now to understand how the *Blood* is the Life, he says, (c) 'We must first understand the substantial Generation of the Vital Spirit, which is compounded of, and nourished by Inspired Air, and the subtlest part of the Blood: The *Vital Spirit* has its original in the left Ventricle of the Heart, by the assistance of the Lungs, which chiefly contribute to its Generation. It is a *subtile Spirit* (so I render *tenuis* here) wrought by the force of Heat; of a florid Colour, having the power of Fire: so that it is a sort of shi-

(c) *Ad quam rem est prius intelligenda substantialis Generatio ipsius Vitalis Spiritus, qui ex Aëre inspirato & subtilissimo sanguine componitur & nutritur: Vitalis Spiritus in sinistro cordis ventriculo suam originem habet, juvenibus maxime pulmonibus ad ipsius generationem. Est spiritus tenuis, caloris vi elaboratus, flavo colore, igneâ potentiâ, ut sit quasi ex puriore sanguine lucens vapor, substantiam continens aquæ, aëris & ignis: generatur ex factâ in pulmone mixtione inspirati aëris cum elaborato subtili sanguine, quem dexter ventriculus sinistro communicat. Fit autem communicatio hæc non per parietem cordis medium,*

ut vulgo creditur, sed magno artificio à dextro cordis ventriculo longo per pulmones ductu, agitatur sanguis subtilis: à pulmonibus preparatur, flavus efficitur, & à venâ arteriosâ in arteriam venosam transfunditur; deinde in ipsâ arteriâ venosâ inspirato aëri miscetur, & expiratione à fuligine repurgatur: atque ita tandem à sinistro cordis ventriculo totum mixtum per Diastolen attrahitur, apta supellex ut fiat spiritus vitalis.

Quod ita per pulmones fiat communicatio & preparatio, docet conjunctio varia & communicatio venæ arteriosæ cum arteriâ venosâ in pulmonibus. Confirmat hoc magnitudo insignis venæ arteriosæ, quæ nec talis nec tanta facta esset, nec tantam à corde ipso vim purissimi sanguinis in pulmones emitteret ob solum eorum nutrimentum, nec cor pulmonibus hac ratione serviret, cum præsertim antea in embryone solerent pulmones ipsi aliunde nutriri ob membranas seu ——— Cordis usque ad horam natiuitatis nondum apertas, ut docet Galenus.

[* *]

'ning

' ning Vapour made of the purer part
 ' of the Blood, containing within it self
 ' the substance of Water, Air and Fire.
 ' It is made in the Lungs, by the mix-
 ' ture of Inspired Air with that Elaborated
 ' Subtile Blood which the Right Ventricle
 ' of the Heart communicates to the Left.
 ' Now this Communication is not made
 ' through the *Septum* of the Heart, as is
 ' commonly believed, but the subtile Blood
 ' is very artificially agitated by a long
 ' passage through the Lungs from the
 ' right Ventricle of the Heart, and is pre-
 ' pared, made florid by the Lungs, and
 ' transfused out of the *Arterious Vein* into
 ' the *Venous Artery*, and at last in the *Ve-*
 ' *nous Artery* it self it is mixed with the
 ' Inspired Air, and by expiration purged
 ' from its Dregs. And thus at length the
 ' whole Mixture is attracted, by the *Dia-*
 ' *stole* of the Heart, into the left Ventricle,
 ' being now a fit Substance out of which
 ' to form the Vital Spirit.

' Now that this Communication and
 ' Preparation is made by the Lungs, is
 ' evident from the various Conjunction
 ' and Communication of the *Arterious*
 ' *Vein* with the *Venous Artery* in the Lungs;
 ' the remarkable largeness of the *Arterious*
 ' *Vein* does likewise confirm it: since it
 ' would

would never have been made of that Form and Bulk, nor would it have emitted so great a quantity of very pure Blood out of the Heart into the Lungs, if it had been only for their Nourishment: nor would the Heart have been this way serviceable to the Lungs, since the *Fœtus* in the Womb are otherwise nourished, by reason of the closeness of the Membranes of the Heart, which are never open'd till the Birth of the Child, as *Galen* teaches.' So that the whole Mixture of Fire and Blood is made in the Lungs, where there is a (d) 'Transfusion out of the *Arterious Vein* into the *Venous Artery*, which *Galen* took no notice of.

(d) *Transfusio à venâ arteriosâ ad arteriam*

venosam propter spiritum, à Galeno non animadverta.

Afterwards, he says, (e) 'That this *Vital Spirit* is transmitted from the left Ventricle of the Heart into the Arteries of the whole Body; so that the more subtile Parts get upwards, where they are yet more refined, especially in the *Plexus Retiformis*, which lies in the

(e) *Ille itaque spiritus vitalis à sinistro cordis ventriculo in arterias totius corporis deinde transfunditur,*

ita ut qui tenuior est, superiora petat, ubi magis adhuc elaboratur, præcipue in plexu retiformi sub basi cerebri sito, ubi ex vitali fieri incipit animalis ad propriam rationalis animæ rationem accedens.

[* * 2]

' Base

‘Base of the Brain, where, from *Vital*,
 ‘it begins to become *Animal*, and ap-
 ‘proaches to the proper Nature of the
 ‘Rational Soul.’

This he reasons long upon, to prove, that the Blood is the Soul of Man ; and seems to allow no other but what is thus made ; first elaborated in the Liver, thence carried by the Veins into the right Ventricle of the Heart, and so into the Lungs ; where being mix’d with Air, it becomes Vital ; and afterwards being carried by the Arteries into the Brain, it is there further sublimed, till it receives its last Perfection, so as to be fit to perform the noblest Operations of the Animal Life.

If we compare now this Notion thus explained by *Servetus*, with Dr. *Harvey*’s *Theory of the Circulation of the Blood*, we shall plainly see, that he had imperfect Glimmerings of that Light which afterwards Dr. *Harvey* communicated with so bright a Lustre to the learned World : Which Glimmerings, since they were so true, having nothing in them of a False-Fire, I much wonder that he went no further ; though at the same time I cannot but heartily congratulate the Felicity of my own Countrey, which produced the

the Man that first saw the Importance of these noble Hints which he improved into a *Theory*, and thereby made them truly useful to Mankind.

Before I conclude this POSTSCRIPT, it will be expected, perhaps, that I should say something concerning this *New Edition*. I have taken the Liberty which all Men have ever allowed, to Alter and Add where I thought any thing was faulty or deficient, and now and then I omitted some few Passages that did not so immediately relate to the design of the Book.

By one of these *Additions*, that of *Surgery*, which Mr. *Bernard* put in at my request, it will be yet further seen, that I would have nothing allowed to the Moderns, where the Cause will not strictly bear it. I had conceded so much to them before, that it was generally thought I was bias'd on their behalf: It was not enough, to tell the World I was of no Side; the contrary was taken for granted, since in so many Particulars I actually gave them the Pre-eminence, when Sir *W. I.* had given it them almost in nothing. I must own, I was glad it could be proved, that the World has not actually lost its Vigour,

Vigour, but that a gradual Improvement is plainly visible ; which this Instance that Mr. *Bernard* has so incontestably made out, does by no means contradict. For *Surgery*, though it is the certainest, yet it is the simplest part of *Medicine* : There the Operator is more let into his Work, which does not depend so much upon Conjecture as *Physic*. The Reproach therefore of its comparatively small Proficiency, is to be laid upon the *Men*, not the *Art* ; it has been for these last Ages esteemed too Mechanical for Men of Liberal Education, and fine Parts, to busie themselves about : So that I question not but if as many learned Men had cultivated *Surgery* for these last CCC Years, as have employed themselves in some other Parts of Natural and Mathematical Learning, it would have met with as proportionable an Encrease ; unless we should say, that it is already come to its highest Perfection ; which, whether it be or no, I cannot pretend to decide.

The *entire* Discourses which are added, are printed by themselves, for the Satisfaction of those who have bought the *First Edition*, and have no Curiosity to compare that with the *Second*. But I have not re-printed those *lesser* Additions which
are

are interwoven into the Body of the Book, both because they would appear only like a parcel of loose Scraps, and because something was to be done in compliance to the Bookseller, who (having once more, at a time when Printing labours under so great Discouragements, adventur'd to publish so large a Book which so few People will care to read) desired that this *Second Edition* might be made as Valuable to him as well it cou'd.

April 30.
1697.



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